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EXAMINER

KLIMOWICZ, WILLIAM JOSEPH

ART UNIT

PAPER NUMBER

2652

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/916,851

Applicant(s)

CHANG ET AL

Examiner

William J. Klimowicz

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 17 July 2003.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-40 and 48-59 is/are pending in the application.
- 4a) Of the above claim(s) 16,28,32-40,48-54 and 58 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-15,17-27,29-31,55-57 and 59 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 27 July 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 4,6.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

Detailed Action

Election/Restriction

Applicants' election with traverse of Group I, Species I, which Applicants contend to read on claims 1-15, 17-40, 48-52, 54-57 and 59, in Paper No. 8, filed July 17, 2003, is acknowledged. The traversal is on the ground(s) that "the examination of [the] claims ... can be made without serious burden."

This is not found persuasive because the Examiner maintains that the search for the multiple species is indeed a burden, since there appears to be a *prima facie* line of demarcation between the species as disclosed and claimed.

Moreover, it is noted that the Applicants did not traverse on the ground that the species are not patentably distinct. If the Applicants were to traverse on the ground that the species are not patentably distinct, the Applicants should submit evidence or identify such evidence now of record showing the species to be obvious variants or clearly admit on the record that this is the case. If the Applicants were to include such a statement, the election requirement would be withdrawn. In either instance, however, if the Examiner finds one of the inventions unpatentable over the prior art, the evidence or admission may be used in a rejection under 35 U.S.C. § 103 of the other invention.

Moreover, the Examiner maintains that claim 28 does not read on elected Species I, but in fact reads on non-elected Species III (wherein the slider is divided into 3 X 3 cells with a scribe formed along another position inclusive to scribes being formed on the diagonal corners). Thus, claim 28 is withdrawn from further consideration.

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Additionally, the Examiner maintains that claims 32-40 and 48-54 do not read on elected Species I, but in fact reads on non-elected Species III (wherein the slider is divided into 3 X 3 cells with a scribe formed along another position inclusive to scribes being formed on the diagonal corners. The scribes for affecting crown and camber are formed in the middle cell [as disclosed in Applicants' specification, and as depicted in Figure 7, which corresponds to non-elected Species III]). Thus, claims 32-40 and 48-54 are also withdrawn from consideration.

The requirement is still deemed proper and is therefore made FINAL.

Claims 1-40 and 48-59 are currently pending.

Claims 41-47 have been voluntarily cancelled by the Applicants.

Claims 16, 28, 32-40, 48-54 and 58 are withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected invention, there being no allowable generic or linking claim. Applicants have timely traversed the restriction requirement.

Drawings

The drawings are objected to under 37 CFR 1.83(a). The drawings must show every feature of the invention specified in the claims. Therefore, the following must be shown or the feature(s) canceled from the claim(s). No new matter should be entered.

(i) Claim 11, which recites "the scribe lines are formed substantially perpendicular to the leading edge of the slider" but is not depicted. See also claim 39.

(ii) Claims 12 and 23, which recites "at least one scribe line is formed as a series of dots" but is not depicted.

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(iii) Claim 13, which recites “a [sic, at] least one scribe line is formed as a series of line segments” but is not depicted.

(iv) Claim 22, which recites “the scribes include laser scribes and at least one diamond scribe line is formed on the back surface prior to forming any laser scribes” but is not depicted.

A proposed drawing correction or corrected drawings are required in reply to the Office action to avoid abandonment of the application. The objection to the drawings will not be held in abeyance.

Specification

The specification is objected to because of the following informalities: With regard to page 7, lines 12 and 15, the application designation XX/XXX,XXX should be replaced by their corresponding application numbers. Appropriate correction is required.

Claim Objections

Claim 13 is objected to because of the following informalities: With regard to claim 13 (line 2), the phrase “wherein a least one scribe line” should be replaced by the phrase -- wherein at least one scribe line--. Appropriate correction is required.

112 Rejections

Claim 22 is rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled

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in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

37 C.F.R. 1.75(d)(1) requires that: "the terms and the phrases used in the claims must find clear support or antecedent basis in the description so that the meaning of the terms in the claims may be ascertainable by reference to the description."

The following highlighted terms and phrases do not find clear support or antecedent in the descriptive portion of the specification:

Claim 22, which recites "the scribes include laser scribes *and at least one diamond scribe line is formed on the back surface prior to forming any laser scribes*"

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

Claims 1-10, 12-15, 17, 19-23, 27, 29-31, 55-57 and 59 are rejected under 35

U.S.C. 102(e) as being anticipated by Khlif (US 6,441,385 B1).

As per claims 1, 14, 27 and 55, Khlif (US 6,441,385 B1) discloses a method for adjusting the curvature (including twist) of an air bearing surface (12) of a slider (10), the slider (10) including a leading edge (14), a trailing edge (16) opposite the leading edge (14), and a back

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surface (22) opposite the air bearing surface (12), the back surface (22) including a substantially rectangular shape (FIG. 5, 6) having four corner areas (128A, 128B, 128C, 128D) including first (e.g., 128A) (upper right corner region) and second (e.g., 128B) (upper left corner region) corner areas adjacent to the trailing edge (16) and third (e.g., 128C) (lower left corner region) and fourth (e.g., 128D) (lower right corner region) corner areas adjacent to the leading edge (14), wherein the first (128A) and third (128C) corner areas are diagonally opposite to one another and the second (128B) and fourth (128D) corner areas are diagonally opposite to one another, the method comprising: scribing at least one line (126) in one of the first or second corner areas; and scribing at least one line (127) in one of the third or fourth corner areas; wherein the scribe lines are made in diagonally opposite corner areas (e.g., FIG. 4).

As per claims 2, 17, wherein the scribe lines (126, 127) in each of the diagonally opposite corner areas are substantially parallel to one another and to the leading edge (14). As per claim 3, a plurality of scribe lines (126, 127) are made in one set of opposite corner areas selected from the group consisting of the first and third corner areas and the second and fourth corner areas (FIGS. 4, 5).

As per claims 4, 19, wherein the scribe lines (126, 127) are made using a laser (120).

As per claims 5, 20, 29, 31, the scribe lines (126, 127) are made using a system selected from the group consisting of pulsed laser, a continuous laser, and a diamond scribe (e.g., see, *inter alia*, COL. 26, lines 19-21).

As per claims 6, 21, 30, the scribe lines (126, 127) are made using a method that modifies the surface stress of the slider (10).

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As per claims 7, 12, 23, wherein at least one of said scribe lines is made up of a plurality of dots extending along a line (due to an embodiment wherein the laser is pulsed - see, *inter alia*, COL. 26, lines 19-21).

As per claim 8, the scribe lines (126, 127) are formed to extend in a path selected from the group consisting of a straight path and a curved path - FIG. 4.

As per claim 9, wherein the scribe lines are formed at any angle to the leading edge (14) of the slider (10) - e.g., FIG. 4.

As per claim 10, the scribe lines (126, 127) are formed substantially parallel to the leading edge (14) of the slider (10).

As per claim 13, wherein at least one scribe line (e.g., the pulsed wave forms dots which form minute line segments) is formed as a series of line segments - see, *inter alia*, COL. 26, lines 19-21.

As per claims 15, 56, 57 and 59, the plurality of scribes (126, 127) are formed in the upper right corner region and the lower left corner region and the twist is increased (e.g., see, *inter alia*, COL. 7, lines 38-44; COL. 7, lines 45-63, etc.) - e.g., positive twist. Note that the regions can be alternatively considered, wherein including wherein the first can be considered (128B) (upper right corner region) and second (128A) (upper left corner region) corner areas adjacent to the trailing edge (16) and third (128D) (lower left corner region) and fourth (128C) (lower right corner region) corner areas adjacent to the leading edge (14), as per claims 57 and 59.

Additionally, as per claim 27, the back surface an upper middle region (between 128A, 128B), a lower middle region (between 128C and 128D), the back surface (22) also including a

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center right region (e.g., between 128A and 128D), a center middle region (along a diagonal between 128A and 128C), and a center left region (e.g., between 128B and 128C).

Additionally, as per claim 55, the method comprising: forming a first group scribes (e.g., 126) of scribes in one of (i) the upper right corner region and the lower left corner region; or (ii) the upper left corner region and the lower right corner region; measuring a twist value after forming the first group of scribes (e.g., 126) ; and forming a second group of scribes (e.g. 127) in one of (i) the upper right corner region and the lower left corner region; or (ii) the upper left corner region and the lower right corner region (e.g., see, *inter alia*, FIGS. 4-6, 15-25; COL. 7, lines 55-63; COL. 8, lines 44-67; COL. 13, 55-61, etc.).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 11, 18, 22, and 24-26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Khlif (US 6,441,385 B1).

See the discussion of Khlif (US 6,441,385 B1), *supra*.

As per claims 18, 24-26, Khlif (US 6,441,385 B1) remains silent as to the specific relationships set forth in the aforementioned claims.

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Given the teachings and suggestions of Khlif (US 6,441,385 B1), however, for modifying the twist and/or crown and/or camber of the slider utilizing scribes at at least diagonal positions on the slider reverse side corners, one of ordinary skill in the art would have routinely experimented to arrive at a desired slider twist, crown and camber by providing the range/dimensions set forth in the aforementioned claims to thereby obtain various standard optimized relationships for an individual slider.

It would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the magnetic head slider scribes of Khlif (US 6,441,385 B1) satisfy the relationships set forth in claims 18, 24-26.

The rationale is as follows: one of ordinary skill in the art would have been motivated to have had the magnetic head slider scribes of Khlif (US 6,441,385 B1) satisfy the relationships set forth in claims 18, 24-26 since each slider can be optimized to provide a desired flying effect based on its curvature/twist, and claims 18, 24-26 are considered to be range optimizations, based on the teachings and suggestions of Khlif (US 6,441,385 B1) as a whole.

Moreover, absent a showing of criticality (i.e., unobvious or unexpected results), the relationships set forth in the aforementioned claims are considered to be within the level of ordinary skill in the art.

Additionally, the law is replete with cases in which when the mere difference between the claimed invention and the prior art is some range, variable or other dimensional limitation within the claims, patentability cannot be found.

It furthermore has been held in such a situation, the Applicant must show that the particular range is critical, generally by showing that the claimed range achieves unexpected

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results relative to the prior art range. *In re Woodruff*, 919 F.2d 1575, 1578, 16 USPQ2d 1934, 1936 (Fed. Cir. 1990).

Moreover, the instant disclosure does not set forth evidence ascribing unexpected results due to the claimed dimensions. See *Gardner v. TEC Systems, Inc.*, 725 F.2d 1338 (Fed. Cir. 1984), which held that the dimensional limitations failed to point out a feature which performed and operated any differently from the prior art.

With regard to claims 11 and 22, although Khlif (US 6,441,385 B1) does not expressly disclose wherein the scribe lines are formed substantially perpendicular to the leading edge of the slider (claim 11) or wherein the scribes include laser scribes and at least one diamond scribe line is formed on the back surface prior to forming any laser scribes (claim 22), Official notice is taken that such methods of forming scribes as set forth in claims 11 and 22 are notoriously old and well known in the art.

Given the teaching of Khlif (US 6,441,385 B1), it would have been obvious to a person having ordinary skill in the art at the time the invention was made to have had the magnetic head slider scribes of Khlif (US 6,441,385 B1) satisfy the relationships set forth in claims 11 and 22, as is well known in the slider art.

The rationale is as follows: one of ordinary skill in the art would have been motivated to have had the magnetic head slider scribes of Khlif (US 6,441,385 B1) satisfy the relationships set forth in claims 11 and 22 since each slider can be optimized to provide a desired flying effect based on the location and position of the slider scribes which affects its curvature/twist, and claims 11 and 22 are considered to be locational/positional optimizations, and have been established previously in the prior art, as is well known and capable of instant demonstration.

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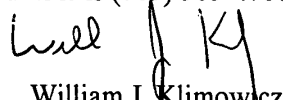
Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to William J. Klimowicz whose telephone number is (703) 305-3452. The examiner can normally be reached on Monday-Thursday (6:30AM-5:00PM).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hoa T. Nguyen can be reached on (703) 305-9687. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.


William J. Klimowicz
Primary Examiner
Art Unit 2652

WJK
August 5, 2003